

Claims

1. A vaccine composition for enhancing an adjuvant effect of IL-12 comprising a pathogenic antigen and an IL-12 adjuvant encapsulated in controlled release microspheres.

2. The vaccine composition as set forth in claim 1, wherein the pathogenic antigen is selected from the group consisting of viruses, bacteria, parasites and fungi.

3. The vaccine composition as set forth in claim 2, wherein the pathogenic antigen is selected from the group consisting of hepatitis B virus, hepatitis C virus, human immunodeficiency virus, influenza virus and mycobacteria.

4. The vaccine composition as set forth in claim 1, wherein the pathogenic antigen is in a protein or peptide form.

5. The vaccine composition as set forth in claim 1, wherein the IL-12 is a recombinant IL-12.

6. The vaccine composition as set forth in claim 1, wherein the controlled release microspheres are manufactured by double emulsion-solvent evaporation.

7. A method of enhancing an adjuvant effect of IL-12, which is characterized by employing IL-12 encapsulated in controlled release microspheres as an adjuvant in a vaccine composition comprising a pathogenic antigen.

- 5           8. The method as set forth in claim 7, wherein the vaccine composition is administered subcutaneously or intranasally.